AMENDED COPY OF PARAGRAPH 0058

[0058] **(Amended)** The gateway 512 transforms the packets into a Motion Picture Experts Group (MPEG)/ Digital Video Broadcast (DVB) compliant transport stream. In the present embodiment, a MPEG-2 Single channel transport stream is used. A modulator 518 then receives the transport stream and modulates the transport stream onto a carrier. In the present embodiment, the modulator includes several components including an error correction system and a nyquist filtering system. In the present invention, the error correction system further includes an energy dispersion system, a Reed-Solomon Encoding system, an Interleaving system and a Convolution encoding/puncturing system. Using the Nyquist system In phase (I) and Quadrature phase modulated signals are produced. Formatting of the signal consist of gray encoding, followed by half-Nyquist filtering. In the present embodiment, the transport stream is modulated onto a 70 Mhz Intermediate Frequency (IF) carrier using Quadrature Phase Shift Keying (QPSK) modulation. Alternatively, another modulation scheme such as Eight Phase Shift Keying (8PSK) or Quadrature Amplitude Modulation (QAM) may be used. The 70 MHZ – 140 MHZ modulated signal is up-converted by the transmitter 520 for communication. In the present embodiment, the modulated signal is up-converted to a frequency between [9Mhz] 5.3 GHZ and [11 MHz] 5.8 GHZ. The system ultimately produces a modulated signal ready for transmission. For example, using a 35.2 Mhz channel, [:]convolution rate, the modulator will provide modulating rate of 27.50 Ms/s (Mega Symbol per second). The raw rate will be 41.25 Mbps and the useful rate of 38.01 Mbps. Ultimately the Wireless Hub will produce a 100 Mbps of useful rate using 36 Mhz per channel.

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AMENDED COPY OF PARAGRAPH 0064

(AMENDED) **[0064]** The ISP provides the Server with an IP address. Therefore, whenever the server logs into the ISP a new IP address is given to the Server. This is referred to as dynamic addressing as opposed to static addressing where the server would always have the same IP address. In addition, the server has been configured with the destination address of the Master proxy server. Therefore, in forming the standard TCP/IP packets used to communicate across the network, the packets associated with the server are given a dynamic source IP address and the IP address of the master proxy server as a proxy address. Therefore the ISP forwards the TCP/IP packets to the internet as shown at 804. The packets are forwarded across the internet to the router which is located in the Wireless Hub, as shown at 806. The router forwards the packets to the switch as shown at 808. The switch is configured to route the TCP/IP packets to the slave proxy server as shown at 810, since the slave proxy server is directly connected to the internet. In the present embodiment, the slave proxy server is configured with the master proxy server as its default gateway therefore, the TCP/IP packets are forwarded to the master proxy server as shown at 812. The master proxy server reads the packets and determines that it is a request for internet content. The master proxy server places its address in the source IP address field of the formulated TCP/IP packets. The request is then sent back to the slave proxy server to retrieve the internet content (e.g. the destination address) as shown at 814. The packets take a path through the switch and across the router to the internet as shown by 816, 818 and 820 respectively. The requested internet content is then communicated back from the internet, through the router, across the switch, through the slave proxy server back to the source of the request, the master proxy server. These steps are shown by 822, 824, 826 and 828 respectively.

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AMENDED COPY OF PARAGRAPH 0065

(AMENDED) [0065] Since there are many users associated with the system, each with dynamic source IP addresses, the master and slave proxies are set up as proxy farms consisting of at least one master proxy server and typically several slave proxies. In addition, the slave proxy is connected to the internet and is configured with the master proxy server as the default gateway. Therefore, when the slave proxy sees [and] an address that it does not know (e.g. not in its routing table), the slave proxy server routes the packet to the master proxy server for communication. Fig. 8 is a message flow diagram of a reverse path utilizing the architecture and addressing scheme associated with Fig. 7. In Fig. 8 the master proxy server has retrieved the internet content and is ready to communicate this content back to the end-user. The master proxy server is configured with the gateway as a default path, therefore the master proxy server routes packets to the gateway. For example, if packets with IP addresses x.x.x.50, x.x.x.60 and x.x.x.70 represent end-user addresses, the packets will be routed to the gateway as shown by 900. The Gateway takes these packets and creates an MPEG-2 compliant transport stream, therefore in the present embodiment, the packets are combined into 188 byte packets with 16 bytes of forward error correction to make a 204 byte transport stream packet. In addition, encryption is performed such as 128 bit encryption. Each transport stream packet includes a plurality of dynamic destination IP addresses, each provided for an individual end-user by the ISP and a MAC address, provided by the Ethernet interface located in each end-user system. The transport stream is sent to the modulator as shown at 902. The modulator modulates the transport stream on a 70 megahertz intermediate frequency carrier. The modulator then sends the modulated signal to the transmitter as shown at 904. The transmitter up-converts the modulated signal to between [950] 5.3 megahertz and [1] 5.8 gigahertz. The transmitter uses a terrestrial wireless technology to communicate the internet content from the Wireless Hub back to the end-user. Therefore, the transmitter broadcasts an up-converted signal out of the antenna as shown at 906. The signal is communicated to the receiver as shown by 908.

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